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| EXAMINER |
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COLE, LAURA C

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| ART UNIT | PAPER NUMBER |
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1744

DATE MAILED: 09/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,852

Applicant(s)

DE BLOCK, PETER

Examiner

Laura C Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because in Figures 8 and 9 it appears that the axes are labeled in German, not English. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "40" has been used to designate both a profile (Page 14) and a region (Page 18). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:

Page 1 Paragraph 1 Line 2 reference is made to "claim 1" which is improper.

Page 4 Paragraphs 2 and 3 disclose information about a "proportion" (Paragraph 2 Line 1) being the value of "the contact force and the square of the length to the product of 48 times the elasticity modulus of the support element and the I_{zz} moment of inertia." However, in the specification on Page 13 in the last formula and last paragraph, that same recited formulation is not disclosed as a proportion value but as "a

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lateral deflection angle γ ." It is unclear to the examiner if the values "0.005 and 0.009" are a unitless proportional values or angles in radians.

Page 5 Paragraph 4 Line 2 reference is made to "claim 10" which is improper.

Page 6 Paragraph 4 Line 2 reference is made to "claim 15" which is improper.

Page 7 Paragraph 2 Lines 1-2 reference is made to "claim 15" and "claim 16" which is improper.

Page 14 Paragraph 2 states that a "profile 40" is shown in Figure 3, however "40" is shown in Figures 8 and 9.

Page 14 Paragraph 6 Line 2 states "spring bars 42 and 44" are shown in Figure 4, however "42 and 44" are shown in Figure 5.

Page 15 Paragraph 2 Line 7 states that "a middle section 36" is shown in Figure 11, however there is not a Figure 11.

Appropriate correction is required.

Claim Objections

5. Claim 21 recites the term "essentially" in Lines 2 and 4. It is unclear what is meant by "essentially."

6. Claims 26-34 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 25. See MPEP § 608.01(n). Accordingly, the claims 26-34 have not been further treated on the merits. Further, in Claims 26, 28, 30, 33, and 34 it is confusing to the examiner what is meant by the phrase "according to one of the preceding claims." Are these claims intended to be independent?

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7. Claim 28-30 and 32-36 recite a coordinate "(s)" and later disclose a force distribution "p (s)" which is confusing to the Examiner since the parentheses have been used for reference numbers. Further, K(s) and M(s) are also used.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 26-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 26 Lines 10-12 are unclear in that "L" is given in the unit "meters" and that "b and d" are given in the unit of "millimeters." Are the terms $20L^2$, bd^2 , and $40L^2$ meant to be numbers in an "absolute value" wherein the relationship between the terms is based on the resultant number? Or does that statement require essentially that the thickness is approximately the same as the length? How would a width and thickness (squared) be of a value greater than the length of the support element (squared)? It is unclear in the specification and in the claims what the appropriate geometric relationship is between the width and thickness of the wiper support element and the length of the support element.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 19-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19 Line 8, is there meant to be a unit after "0.009"? (Also questioned in the specification).

Claim 19 Lines 10-11, what does "the contact force for which the wiper blade was originally designed" mean?

Claim 19 recites the limitation "the length" in Line 11, "the elasticity modulus" in Line 12, "the moment of inertia" in Line 13, and "the z-axis" in Line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 20 Line 3, is there meant to be a unit after "0.005"? (Also questioned in the specification).

Claim 23 Line 4, is there meant to be a unit after "0.009"? (Also questioned in the specification).

Claim 24 Line 4, is there meant to be a unit after "0.005"? (Also questioned in the specification).

Claim 25 Lines 6-7 recite "in particular according to one of the preceding claims" which is confusing. Is only some of the structure claimed "according to one of the preceding claims"? Is this claim intended to be an independent claim?

Claim 27 Lines 2-3 recite "two spring bars whose widths are added to each other" which is confusing.

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Claim 28 recites the limitation "the longitudinal span" in Line 11 and "the second derivative" in Lines 12-13. There is insufficient antecedent basis for this limitation in the claim.

Claim 29 recites the limitation "the neutral axis" in Line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "the longitudinal span" in Line 11, "the second derivative" in Lines 12-13, and "the ends" Line 16. There is insufficient antecedent basis for this limitation in the claim.

Claim 31 recites the limitation "the location" in Line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 32 recites the limitation "the neutral axis" in Line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 33 recites the limitation "the longitudinal span" in Line 11, "the contact force distribution" in Lines 12-13, "the center" Line 15, and "the end" in Line 16 and in Line 17. There is insufficient antecedent basis for this limitation in the claim.

Claim 34 recites the limitation "the longitudinal span" in Line 11, "the contact force distribution" in Lines 12-13, "the center" Line 16, and "the end" in Line 17. There is insufficient antecedent basis for this limitation in the claim.

Claim 35 recites the limitation "the window" in Line 4, "the width" in Line 5, "the thickness" in Line 5, and "the curvature progression" in Line 6. There is insufficient antecedent basis for this limitation in the claim.

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Claim 35 recites "A method for producing a wiper blade..." however the steps recited pertain to the support element and the entire assembly. Is the method for producing the wiper blade *assembly*?

Claim 36 recites the limitation "the above relation" in Lines 16-17 and "the desired curvature progression" in Lines 18-19. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 19-21 and 23-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Swanepoel, USPN 5,485,650 (herein '650).

'650 discloses the invention as is claimed (Figures 1-3), including a support element (12) that is an elongated, flat bar, a wiper strip (14), a connecting device (16), and that the cross sectional profile in which there is a value less than 0.009 and less than 0.005, specifically of that of 0.00014244 when the contact force exerted on the blade is 1 N (Column 3 Line 40), the Length is 450mm (Column 3 Line 30), the modulus of elasticity is $207 \times 10^9 \text{ N/m}^2$ (Column 3 Line 31), and the moment of inertia (I_{zz}) is found by using the values of the width and thickness (Column 3 Lines 32-35) calculated according to that of a rectangular elongated flat bar ($1/12 * d * b^3$) at the center.

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Further, the support element has an essentially rectangular cross sectional profile (as seen in Figure 3) with an *essentially* constant width and thickness.

11. Claims 19-21, 23-24, 28, 30, 31, and 33-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Swanepoel, USPN 5,325,564 (herein '564).

'564 discloses the invention as claimed, including a support element (10) that is an elongated, flat bar (Figure 3), a wiper strip (12), a connecting device (14), and that the cross sectional profile in which there is a value less than 0.009 and less than 0.005, specifically that of 0.00962 when the values of contact force exerted on the blade, length, modulus of elasticity, width, and thickness are given in Example 2 (Columns 6 and 7), wherein the moment of inertia (I_{zz}) is found by using the values of the width and thickness calculated according to that of a rectangular elongated flat bar ($1/12 * d * b^3$) at the center. Further, the support element has an essentially rectangular cross sectional profile (Column 2 Lines 36-41) with an *essentially* constant width and thickness. '564 discloses in Column 2 Lines 8-20 and Column 3 Lines 8-12 that the curvature profile has values such that the second derivative of the curvature as a function of a coordinate has a relationship to a contact force distribution, and that the distribution may decrease towards the ends (specifically Column 2 Lines 17-20). In that the curvature is 0 (the window is flat) the curvature follows the longitudinal span of the support element. The connecting device may be located in the center (Figure 4). The characteristics of the wiper blade are produced in the steps of determining a width and thickness, a curvature progression, bending the support element, and connection of the elements (as demonstrated in the Examples). Further in Example 3 the determination

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of the length and profile may be done by experimental values, a pressure distribution for a flat window found by experimental values (Column 6 Line 1), measurement of the curvature (as mentioned in the previous step, it is a flat window so that the curvature is 0), and calculations in regard to the curvature progression (from Example 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanepoel, '564 in view of Appel, USPN 3,192,551.

'564 discloses all elements above, however the support element does not include at least two individual bars.

Appel discloses a windshield wiper blade assembly that includes a number of embodiments relating to the properties of the supporting element (elasticity, curvature, load, length, dimensions) in order to provide a constant loading of pressure throughout the length of the wiper blade (Column 1 Lines 16-41). Further, Figures 6, and 10-15 display two individual bars having separate widths that would add up to a total width when computing the pressure-curvature relationship (Column 2 Lines 37-41). The "gap" between the bars is provided as a securement means of a rib (40) for a wiper blade.

It would have been obvious for one of ordinary skill in the art to modify '564 to have two individual bars as Appel teaches in order to accommodate an alternative

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method of securing a wiper blade to the support element while maintaining a pressure and geometric relationship.

13. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swanepoel, '564 in view of Porter, USPN 4,045,838.

Insofar as the specification and claims are understood, '564 includes all elements included above, including that a profile value less than 0.005 and 0.009. Applicant's specification on Page 13 cites that 0.009 (radians) is equivalent to 0.3° and that 0.005 (radians) is equivalent to 0.5° . '564 does not disclose a coefficient of friction.

Porter discloses that it is desirable for a wiper blade (or strip) and a window to have a coefficient of friction of 1.0 or lower (Column 1 Lines 65-68) to diminish the amount of wear on the blade.

It would have been obvious for one of ordinary skill in the art to modify the blade of '564 to have a coefficient of friction such as the range taught by Porter to have a blade that has a longer life of use.

14. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swanepoel, '650 in view of Appel, USPN 3,192,551.

'650 and Appel disclose all elements above, however '650 does not include a method of producing a wiper blade.

Appel further teaches that the length, force, thickness, and curvature are determined (Column 2 Lines 38-45) and that there is bending of a support element in order to connect the support element, wiper strip, and connecting device (Column 3 Lines 69-73).

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It would have been obvious for one of ordinary skill in the art to produce a windshield wiper blade according to such a method to create a blade that has ease of connection to the support element.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

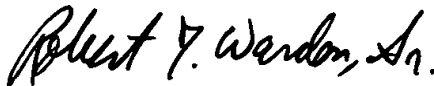
DE 195 01 849 discloses a displacement in a wiper blade according to the English translation of the Abstract. Examiner does not currently have an English translation of the disclosure.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (703) 305-7279. The examiner can normally be reached on Monday-Thursday, 7am - 4:30pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Warden can be reached on (703) 308-2920. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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LCC


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